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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,577	05/14/2004	Itzhak Bentwich	050992.0202.02CPUS	3576

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EXAMINER	
WOLLENBERGER, LOUIS V	
ART UNIT	**PAPER NUMBER**
1635	

MAIL DATE	DELIVERY MODE
05/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/709,577	BENTWICH ET AL.	
	Examiner	Art Unit	
	Louis V. Wollenberger	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *25-33* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *See Continuation Sheet*.

Continuation of Attachment(s) 6). Other: Notice to Comply; Raw sequence error report.

DETAILED ACTION

Election/Restrictions/amendments to the claims

Applicant's election without traverse of Group I, claims 1-11 and 20-23, drawn to a bioinformatically detectable oligonucleotide, in the reply filed on 3/21/07 is acknowledged.

Also acknowledged is Applicant's election with traverse of SEQ ID NO:10068310 as the isolated, bioinformatically detectable oligonucleotide.

Applicant's election of SEQ ID NO:3010 and target gene MAP2K4 has been rendered moot by Applicant's amendments to the claims; claims expressly reciting SEQ ID NO:3010 and target gene MAP2K4 are no longer pending.

Applicant's amendments to the claims, canceling claims 1-24 and adding new claims 25-33, is acknowledged. Applicant states claims 25-33 are drawn to (i.e., read on) Group I, elected without traverse.

The Examiner respectfully disagrees, as explained below. Furthermore, new claims 26-32 appear to recite a plurality of independent or distinct molecules, and therefore a plurality of distinct inventions, which are subject to Restriction, as explained below.

Adding to the confusion is the fact that Applicant's CRF sequence listing remains flawed as indicated in the accompanying Raw Sequence Listing Error Report. Consequently, the Examiner is unable to readily review and compare the recited sequences, let alone search and examine the instant claims. The instant application discloses more than 10 million sequences.

With regard to Applicant's traversal of the Restriction as applied to the individual nucleotide sequences, Applicants are further referred to the OG Notice of 27 March 2007 (1316

OG 122), which rescinds the 1996 OG Notice that provided for a partial waiver of the requirements for restriction practice by permitting examination of a reasonable number, up to ten, independent and distinct polynucleotide molecules in a single 35 USC 111(a) or 35 USC 371 application (see 1192 Off. Gaz. Pat. Office 68, No. 19, 1996), and which states in part that "Claims to polynucleotide molecules will be considered for independence, relatedness, distinction and burden as for claims to any other type of molecule."

Given that the instantly recited sequences comprise distinct sequences and are thereby considered to represent distinct molecules that require separate searches and considerations of the prior art literature with regard to novelty and obviousness, and given the complexity of these searches, it would be a burden to search more than one sequence in the instant application.

Accordingly, the restriction is still deemed proper and is made final.

Flawed CRF Sequence Listing—Notice to Comply

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). A computer readable form (CRF) of the sequence listing was submitted. However, the CRF could not be processed by the Scientific and Technical Information Center (STIC). See the attached Notice to Comply.

In the instant case, Applicants have submitted a substitute CRF copy of the sequence listing in the reply filed on 3/21/07; however, the Office is unable to process the substitute CRF. Thus, the Examiner is unable to search and examine the claims of the instant application.

Applicants are requested to resubmit the sequence listing in corrected form along with the necessary papers and statements. See attached Notice to Comply.

Applicant is given ONE MONTH, or THIRTY DAYS, whichever is longer, from the mailing date of this letter within which to comply with the sequence rules, 37 CFR 1.821 - 1.825. Failure to comply with these requirements will result in ABANDONMENT of the application under 37 CFR 1.821(g). Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a). In no case may an applicant extend the period for reply beyond the SIX MONTH statutory period. Applicant is requested to return a copy of the attached Notice to Comply with the reply.

Election/Restrictions

Applicant's amendments to the claims necessitates the following further Restriction Requirement.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 25-32, drawn to an isolated nucleic acid comprising at least 16 nucleotides of SEQ ID NO:10068310, classified in class 536, subclass 24.5, for example. Election of this group requires the further election of a single polynucleotide sequence (i.e., single SEQ ID NO) from claims 26, 27, 29, or 30, as explained below.

II. Claim 33, drawn to a method for detecting any one of the nucleic acids recited in claim 27, classified in class 435, subclass 6.

The inventions are distinct, each from the other because of the following reasons:

Groups I and II are directed to an unrelated product and process. Product and process inventions are unrelated if it can be shown that the product cannot be used in, or made by, the process. See MPEP § 802.01 and § 806.06. In the instant case, the isolated nucleic acid of Group I is not specifically required in the process of detecting a nucleic acid of Group II. The nucleic acids of Group I are identified by the process of Group II but not specifically used for the detection method itself. In fact, the process of Group II does not require that the nucleic acids of Group I be present in the biological sample. Furthermore, with respect to Group I, the product as claimed can be used in a materially different process distinct from that of Group II. For example, the isolated nucleic acid may be used in a method of inhibiting gene expression in a cell or organism, which does not require measuring the level of nucleic acid in a biological sample.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Restriction to a Single Nucleotide Sequence

Should applicant elect to prosecute Group I, this Group is subject to further restriction as follows.

Pursuant to 35 U.S.C. 121 and 37 C.F.R. 1.141, the sequences recited in claims 26, 27, 29, and 30 are subject to restriction since they are not considered to be a proper genus/Markush. See MPEP 803.02 - PRACTICE RE MARKUSH-TYPE CLAIMS - If the members of the

Markush group are sufficiently few in number or so closely related that a search and examination of the entire claim can be made without serious burden, the examiner must examine all the members of the Markush group in the claim on the merits, even though they are directed to independent and distinct inventions. In such a case, the examiner will not follow the procedure described below and will not require restriction. Since the decisions in *In re Weber*, 580 F.2d 455, 198 USPQ 328 (CCPA 1978) and *In re Haas*, 580 F.2d 461, 198 USPQ 334 (CCPA 1978), it is improper for the Office to refuse to examine that which applicants regard as their invention, unless the subject matter in a claim lacks unity of invention. *In re Harnish*, 631 F.2d 716, 206 USPQ 300 (CCPA 1980); and *Ex parte Hozumi*, 3 USPQ2d 1059 (Bd. Pat. App. & Int. 1984).

Broadly, unity of invention exists where compounds included within a Markush group (1) share a common utility, and (2) share a substantial structural feature disclosed as being essential to that utility.

The instant claims specifically claim several different oligonucleotide sequences, which presumably encompass sequences within SEQ ID NO:10068310.

The instant sequences are considered to be unrelated, i.e., independent and distinct, since each sequence (i.e., each SEQ ID NO:) claimed would appear to be structurally and functionally independent and distinct for the following reasons: each sequence has a unique nucleotide sequence, and, absent evidence to the contrary, each oligonucleotide is expected to possess different physical and chemical properties, and thereby different relative biological effects.

As such, the Markush/genus of sequences and target genes in the instant claims are not considered to constitute a proper genus, and are therefore subject to restriction.

Furthermore, a search of more than one (1) of the sequences claimed in the instant claims presents an undue burden on the Patent and Trademark Office due to the complex nature of the sequence searches in terms of computer time needed to perform the search and the subsequent analysis of the search results by the examiner. In view of the foregoing, one (1) oligonucleotide sequence along with one corresponding target gene is considered to be a reasonable number of sequences for examination.

Accordingly, applicants are required to elect one (1) sequence. i.e., one SEQ ID NO: from the instant claims for prosecution on the merits. Note that this is not a species election.

Linked Inventions

Claim 1 link(s) the inventions of claims 26, 27, 29, and 30, insofar as claims 26, 27, 29, and 30 are presumed to further limit the invention of claim 1. The restriction requirement among the linked inventions is **subject to** the nonallowance of the linking claim(s), claim 1. Upon the indication of allowability of the linking claim(s), the restriction requirement as to the linked inventions **shall** be withdrawn and any claim(s) depending from or otherwise requiring all the limitations of the allowable linking claim(s) will be rejoined and fully examined for patentability in accordance with 37 CFR 1.104 **Claims that require all the limitations of an allowable linking claim** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

Applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, the allowable linking claim, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Conclusion

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the

inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis V. Wollenberger whose telephone number is 571-272-8144. The examiner can normally be reached on M-F, 8 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Schultz can be reached on (571)272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LW
Art Unit 1635
May 16, 2007

/Sean McGarry/
Primary Examiner AU 1635

Notice to Comply	Application No.	Applicant(s)	
	10709577	BENTWICH ET AL.	
	Examiner	Art Unit	
	Louis V. Wollenberger	1635	

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant must file the items indicated below within the time period set in the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

☐ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).

☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).

☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).

☒ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."

☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).

☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).

☐ 7. Other:

Applicant Must Provide:

☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".

☒ An initial or substitute paper copy of the "Sequence Listing", **as well as an amendment specifically directing its entry into the specification**.

☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (571) 272-2510
For CRF Submission Help, call (571) 272-2501/2583.
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